



Radeon™ E4690 GPU

High Performance Embedded Graphics Processor



Serious Graphics for Avionics, Military and Industrial Platforms



Core Avionics & Industrial (CoreAVI), a Channel One company, is pleased to offer an extended temperature tested, industrial version of the Radeon E4690 graphics processor as well as 20-year component supply management for this state-of-the-art embedded GPU. The Radeon™ E4690 delivers stunning 2D/3D graphics and video performance in embedded computing environments ranging from handheld devices to leading edge aircraft cockpit displays. With 3x the performance of AMD's previous generation embedded GPUs,* this graphics processor includes features which until now have been available only in gaming and desktop systems, and offers remarkably low power-consumption and scalable power management options for resource-constrained devices. State of the art features include dual HD video streaming, a 128-bit memory interface and 512MB on-chip GDDR3 memory. For ultimate performance, multiple GPUs can be combined.



Desktop-level Performance

- 320 shader processors
- 128-bit memory interface
- 512 MB GDDR3

Extended Temp Testing and Long Term Availability

- Availability up to 20 years**
- -40°C /105°C testing temp

Broadest Range of Display Outputs

- Support for DisplayPort (2x the bandwidth of DVI), HDMI, dual-link DVI, analogue output, LVDS panels

Exceptional Video Decode

- H.264, VC-1, MPEG -2
- Picture-in-Picture

Low and Scalable Power Consumption

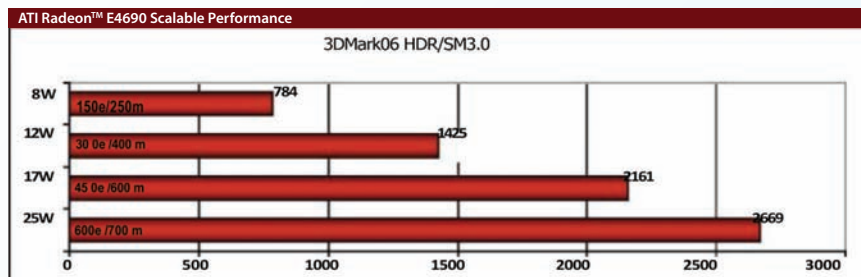
Based on 55nm technology, the E4690 delivers over twice the performance per watt* than previous generation processors. Built with ATI's PowerPlay™ technology, this GPU's dynamic power management delivers high performance when needed, conserves energy at idle or when demand is low, and offers exceptional scalability of performance between 8W and 25W.

Program Ready Components

Unlike desktop PC manufacturers, embedded designers in the industrial and mil-aero sectors need to know that the components they select today will be available in years to come to support their products' longer life cycles. That is why CoreAVI offers temperature screened versions of the E4690 with the option of long-term supply availability for up to 20 years.

Graphics Drivers for Safety Critical Environments

CoreAVI provides high performance embedded OpenGL ES and OpenGL SC graphics drivers for the E4690, with support for a number of system configurations and RTOSes including Wind River VxWorks, Green Hills INTEGRITY and customer proprietary OSes. Product options include a DO-178B/C and ED-12B certifiable version of the driver (up to Design Assurance Level A) for safety critical environments, including all certification evidence required for regulatory approval.



Note 1. e/m indicates the 3D engine (e) and memory (m) clock speed in MHz.

* Performance claim based on 3DMark06 HDR/SM3.0 benchmarks compared to the ATI Radeon E2400.

** Long term contracts are available for up to 20 years.

Sales Inquiries

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ATI Embedded Comparison	E2400	E4690
Graphics Processing Unit		
Max Frequency	600 MHz	600 MHz
Process Technology	65	55nm
CPU Interface (x86 & PowerPC support)	PCIe 1.1 (x1, x2, x4, x8, x16)	PCIe 2.0 (x1, x2, x4, x8, x16)
Shader Processing Units	40	320
AVIVO Display Engine	✓	✓
Full 30-bit Display Pipeline	✓	✓
DirectX	10	10.1
Shader Model	3.0	4.0
OpenGL	2.0	OpenGL ES 2.0, OpenGL SC, OpenGL 1.x, OpenGL 3.x
Stream Computing	✓	✓
Motion Video Decode	H.264, VC-1	H.264, VC-1, MPEG-2
Internal Thermal Sensor	✓	✓
Memory		
Max Frequency	700 MHz	700 MHz
Type	GDDR3	GDDR3
Configuration (on-chip)	128MB	512MB
Width	64 bit	128 bit
Display Interfaces*		
Analog RGB (triple 10 bit DAC, 400MHz)	2	2
Analog TV (YPbPr, Composite, SVideo)	1	1
DVI – Single Link	2	2
DVI – Dual Link	1	2
DisplayPort (v1.1a)		2
HDMI	1	1
Integrated HD Audio Controller (Azalia)	1	1
HDCP Keys	1	2
LVDS – Single or Dual Link, 18 or 24 bpp	1	1
DVO (12-bit DDR or 24-bit SDR/DDR)	1	1
Operating System Support		
Windows XP, Windows Vista, Windows 7	✓	✓
Real-time operating support includes Wind River VxWorks, Green Hills Integrity, LynuxWorks LynxOS, DDCI Deos and other popular RTOSes		✓
Support available for customer proprietary operating systems		✓
Linux Variants	✓	✓

* Not all display interfaces can be used at the same time. All display outputs are independent timings. Display resolutions up to 3840x2400 per display output, provided available memory or interface bandwidth are not oversubscribed. Contact CoreAVI for availability. Part Number: 100-CK3802E. CoreAVI: +1 813-990-0603, sales@coreavi.com.

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